For DEQ Use Only		For DEQ Use Only
Date Permit Issued	**State of Oregon** **Department of Environmental Quality** 811 SW 6th Avenue, Portland, OR 97204	Date
File No.	**Application for 700-PM General Permit**	Amount Received
		Check No.

Registration is only required for suction dredges including siphon/gravity dredges. The applicant must provide all requested information for this application to be considered complete. An application that is incomplete or unsigned will be returned to the applicant to complete. Application submittal and permit issuance information is provided on page 2.

Were you previously registered under the 700PM? ☐ **Yes** ☐ **No**

If Yes, enter the File No.:

APPLICANT NAME

MAILING ADDRESS

Street Address

City | State | Zip Code

Telephone | Alternate Telephone/Mobile

Email Address

SITE / SUCTION DREDGE INFORMATION

Location*: Township: | Range: | Section:

Is this location in Essential Salmon Habitat (ESH)?** ☐ Yes ☐ No

*For location, please provide the primary mining claim or area where you plan to operate.

Note: Suction dredging is not allowed in state scenic waterways.

If you have more than one dredge, list the largest inside hose diameter, nozzle size, and horsepower rating:

Suction hose inside diameter (inches):		(Maximum 6 inches inside diameter)
Nozzle inside diameter (inches)		(Maximum 4 inches within ESH)
Horsepower rating:		(Maximum 16hp within ESH or 30hp outside ESH)

Please read and initial the following statements. (Failure to initial does not render the application incomplete.) These statements relate to Senate Bill 838, found at https://olis.leg.state.or.us/liz/2013R1/Measures/Text/SB838/Enrolled adopted during Oregon's 2013 legislative session. More information on Senate Bill 838 and the surcharge is available at http://www.oregon.gov/deq/W_Q/Pages/W_ater%20Quality%20Permits/Mining/miningfaq.aspx

_____ I understand that I must complete and return this application to DEQ with the $25 permit fee and $150 surcharge fee to be registered under the 700-PM permit for 2014.

_____ I understand that the $150 surcharge fee is non-refundable.

I understand that I must obtain a General Authorization (GA) from the Department of State Lands

_____(DSL) before I may lawfully operate a suction dredge in Essential Salmon Habitat (ESH) waters, and that DSL is statutorily limited to issuing no more than 850 GAs and individual permits for motorized mining in ESH waters in 2014 and 2015. [*For comparison, in 2013, DSL issued more than 2400 GAs.*]

SIGNATURE

I hereby certify that the information in this application is true and correct to the best of my knowledge and belief.

Signature Date

-Important Information-

A separate Recreational/Small Scale Placer Mining *General Authorization* or a Removal/Fill *Permit* is required from the Oregon Department of State Lands for Recreational/Small Scale Placer Mining within Essential Salmon Habitat. Please contact DSL at (503) 986-5200 or http://www.statelandsonline.com for information regarding suction dredge requirements in Essential Salmon Habitat waterbodies and state scenic waterways.

Permit Fees: SEND CHECK OR MONEY ORDER PAYABLE TO DEQ WITH SIGNED APPLICATION

Amount Enclosed: ☐ $175 ($25 Annual Fee and $150 Surcharge Fee)

Send Completed Application and Surcharge/Annual Fee Payment Check to:
Oregon Department of Environmental Quality
Attn: Business Office
811 SW Sixth Avenue, Portland OR 97204
(503) 229-6114 | (800) 452-4011

APPLYING FOR COVERAGE UNDER DEQ's 700-PM GENERAL PERMIT

How do I obtain coverage under the new 700-PM General Permit?

1. Complete a 700-PM application.
   For suction dredge only. There is no registration required for non-motorized in-water mining equipment or devices.
   New dredge operators may obtain a 700-PM application by:
   a. Mail or in person from the DEQ regional offices. Call 503-229-6114 or 800-452-4011 for the location of the nearest DEQ regional office.
   b. Download the application from the DEQ website at: http://www.deq.state.or.us/wq/wqpermit/mining.htm

2. Submit the complete 700-PM application and fee to DEQ's Portland office.
   A complete application and $175 fee ($25 annual fee and $150 surcharge fee) must be submitted to DEQ. DEQ expects to receive a large volume of applications each spring. Applicants should expect a 15 day processing time for assignment to the 700-PM General Permit during that period. Thereafter, DEQ will be able to process and assign coverage within 10 business days after receiving a complete application.

3. DEQ will review the 700-PM application and assign or deny coverage. After reviewing the application DEQ will do one of the following:
   a. Issue a written notice of assignment to the 700-PM General Permit.
   DEQ will send an assignment letter and a copy of the 700-PM General Permit to the applicant.
   b. Deny coverage under the 700-PM General Permit.
   The applicant will be notified if the applicant's operation cannot be approved for coverage under the General Permit, and that the applicant may need to obtain an individual permit.
   c. Request additional information.
   An application that is incomplete or unsigned will be returned to the applicant to complete. DEQ requires a complete application in order to assign or deny coverage under the 700-PM General Permit.

   The DEQ 700-PM General Permit is considered valid when the applicant receives the DEQ authorization letter and the 700-PM with the applicant's name and DEQ permit number.

Other Agency Requirements

You must comply with all applicable local, state, and federal laws and regulations. Prior to initiating recreational and small-scale placer mining, you should consult with affected local land use planning agencies and public land managing agencies.

Permit Number: 700PM
Expiration Date: December 31, 2014
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GENERAL DISCHARGE PERMIT

Department of Environmental Quality 811 SW Sixth Avenue Portland, OR 97204

Telephone: (503) 229-5630

Issued pursuant to ORS 468B.050 and 402 of the Federal Clean Water Act

ISSUED TO: **SOURCES REQUIRED TO REGISTER UNDER THIS PERMIT:**

1) small suction dredges not to exceed 30 horsepower with an inside diameter suction hose no greater than six inches used for recovering precious metals or minerals from stream bottom sediments in areas NOT designated as essential salmon habitat.
2) small suction dredges not to exceed 16 horsepower with an inside diameter intake nozzle no greater than 4 inches used for recovering precious metals or minerals from stream bottom sediments in areas designated as essential salmon habitat.

SOURCES COVERED BY THE PERMIT BUT NOT REQUIRED TO REGISTER

1) in-water nonmotorized mining equipment used for recovering precious metals or minerals from stream bottom sediments.

SOURCES NOT REQUIRED TO OBTAIN A WATER QUALITY PERMIT

1) hand panning

Neil Mullane, Administrator Date
Water Quality Division

SCOPE OF PERMITTED ACTIVITIES

This 700PM permit replaces the 700PM permit issued in 2005. This permit is valid until December 31, 2014.

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Until this permit expires or is modified or revoked, the registrant of this permit is authorized to mine and discharge turbid wastewater to waters of the state only in accordance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

DEFINITIONS

- *Background Turbidity* means turbidity that represents the ambient, undisturbed turbidity as measured or observed at least 10 feet upstream or upcurrent from the suction dredge or in-water nonmotorized mining equipment operation at the time dredging occurs.
- *Daylight hours* are those hours between sunrise and sunset.
- *DEQ* or *Department* means Oregon Department of Environmental Quality.
- *Essential salmon habitat* means the habitat that is designated pursuant to ORS 196.810 and is necessary to prevent the depletion of indigenous anadromous salmon species during their life stages of spawning and rearing.
- *Gravel Bar* means a transitional gravel deposit that lacks any rooted vegetation, located either between the stream banks and the wet perimeter of the stream or entirely within the wet perimeter of the stream.
- *Habitat structure* includes:
  - *Boulders* include cobbles and larger rocks that protect and prevent erosion of the banks from spring run runoff and storm event stream flow;
  - *Woody material* includes living or dead trees, shrubs, stumps, large tree limbs, and logs;
  - *Vegetation* includes grasses, wildflowers, weeds, and other vegetation that stabilizes the stream banks or provides cover for fish or provides shade
- *In-water nonmotorized mining equipment or device* are small scale prospecting and mining methods that use gravity separation for processing placer ore and minerals within the wet perimeter such as a hand sluice box and mini rocker.
- *OAR* means Oregon Administrative Rule.
- *Pollution* or *water pollution* means alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof. ORS 468B.005(5).
- *Stream bank* means a slope of land adjoining and confining a stream channel.

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I. *Visible Turbidity* means turbidity that is distinctly visible when compared to background turbidity.

II. *Wastes* mean sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive or other substances which will or may cause pollution or tend to cause pollution of any waters of the state. ORS 468B.005(9).

III. *Wet perimeter* means the area of the stream that is underwater, or is exposed as a non-vegetated dry gravel bar island surrounded on all sides by actively moving water at the time the activity occurs.

HOW TO APPLY FOR COVERAGE UNDER THIS GENERAL PERMIT

A. Persons Seeking To Register Under This 700PM General Permit

- Suction dredge operators can obtain coverage under this permit by the following steps:

  - Obtain a DEQ application form by:
    - Mail or in person from a DEQ regional office, or
    - Downloading the application from the DEQ website.

  - Submit a completed application to DEQ, requesting coverage under this permit at least thirty days prior to the planned activity. The Department may accept applications filed less than thirty days from the planned activity on a case by case basis.

  - Submit the annual permit registration fee or the optional 5-year permit registration fee with the application. Permit holders registered for coverage under this permit that pay the annual permit registration fee, need only submit the annual permit registration fee. Unless the registrant's contact information or the operation has changed, DEQ does not require an application each year from registered permit holders paying the annual permit fee.

- DEQ will review the applications submitted under sections (1) and (2) above and will take one of the following actions:

  - Issue written notice of permit registration approval.

  - Request additional information.

  - Deny coverage under this permit. The applicant will be notified if the applicant's operation cannot be approved for coverage under the permit, and that the applicant may need to obtain an individual permit.

- Fees
  - To obtain and maintain coverage under this permit, the applicable fees provided in OAR 340-045-0075 must be received by the Department.

  - Permit holders may, but are not required to, prepay multiple years of coverage in advance.

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d. Failure to pay applicable fees may result in termination of coverage under this permit. Coverage may be restored upon payment of the fee.

- An existing permit holder who submitted the 2010 annual fees in accordance with the 2005 permit is covered under this permit on its effective date. These permit holders must complete and submit the 2010 application form within 30 days to retain coverage.

- Renewing coverage prior to the December 31, 2014 expiration date.
  - Before July 1, 2014 permit holders must:

- Submit a complete application form to DEQ. The DEQ Director may grant permission to submit the application later than July 1, 2014 but no later than the permit expiration date.
- Submit all applicable fees with the permit application.

B. Sources Covered By This Permit But Not Required To Register Under The Permit

1. In-water nonmotorized mining. No application or fee is required for these activities. Persons conducting in-water nonmotorized mining must have a copy of the permit in their possession or readily available for inspection at the mining location.

COVERAGE AND ELIGIBILITY

- Activities covered by this permit may not discharge wastes to waters of the state except in compliance with this permit.

- Any person not wishing to be covered or limited by this permit may apply for an individual permit in accordance with the procedures in OAR 340-045-0030.

- Persons covered by this permit may own or have access to multiple suction dredges or in-water nonmotorized mining equipment at the mining site. The person covered by this permit or, a designated person under supervision of that person, may only operate one device at a time. Other persons not assigned to this permit may operate either a single small suction dredge or in-water nonmotorized mining equipment under the supervision of the permit holder if all conditions of this permit are met. The person covered by this permit must be present when supervising small suction dredge or in-water nonmotorized mining equipment operations by the alternate person.

- During mining activities, persons covered by this permit must have a copy of the permit in their possession or readily available for inspection at the mining location. Copies of this permit are available at DEQ's website: http://www.deq.state.or.us/wq and at DEQ regional offices listed on page 8.

SCHEDULE A

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DISCHARGE LIMITATIONS FOR ALL EQUIPMENT

III. Suction dredges and in-water nonmotorized equipment authorized by this permit must not create visible turbidity beyond 300 feet downstream or downcurrent. In no case may the visible turbidity cover the entire wet perimeter. No wastes may be discharged and no activities may be conducted that will violate Water Quality Standards as adopted in OAR Chapter 340, Division 41.

IV. If any visible increase in turbidity of wastewater discharges is observed above background turbidity beyond any point more than 300 feet downstream or downcurrent from the activity at any time, the operation must be modified, curtailed or stop immediately so that a violation as

defined in Schedule A does not exist. Options to prevent, mitigate or correct turbid water discharges include, but are not limited to, ceasing operations, moving the location of the operation, reducing process flow or using a smaller machine.

V. Suction dredge and in-water nonmotorized mining operations are prohibited during non-daylight hours.

VI. Mining must not cause any measurable increase in turbidity in the Diamond Peak, Kalmiopsis, Eagle Cap, Gearhart Mountain, Mount Hood, Mount Jefferson, Mount Washington, Mountain Lakes, Oregon Islands, Strawberry Mountain, Three Arch Rocks and Three Sisters wilderness areas. Measureable increase in turbidity is measured as visible turbidity.

SCHEDULE B

MONITORING REQUIREMENTS FOR SUCTION DREDGE PERMIT HOLDERS

- Suction dredge permit holders, or a person under the permit holder's supervision, must visually monitor the turbid wastewater discharges each day of the operation. Visual monitoring must be performed once a day during daylight hours.

- Visual monitoring of the wastewater discharge must be conducted immediately downstream or down current from the mining activity until the turbidity plume is no longer visible.

- The following information must be recorded in a monitoring log.

    - Record the **date**, **location**, **equipment used**, **whether mitigation measures were needed to comply with the 300 foot turbidity limit,** and the **printed name of the person making the record** in the monitoring log.

- The log must be legible and available to authorities upon request.

- The permit holder must maintain the records for at least three years.

SCHEDULE C

SPECIAL CONDITIONS

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Best Management Practices

- Suction dredges or in-water nonmotorized mining equipment must be operated to ensure that there is no overlap of turbidity plumes from equipment used in the same waters.

- Suction dredging is not allowed outside the periods set in the in water work schedule (*Timing of In-Water Work To Protect Fish and Wildlife Resources*) established by the Oregon Department of Fish and Wildlife. Where written approval is required by ODFW,

the operator must be in possession of a copy of that written approval or have it readily available during dredging activities.

- Nonmotorized mining equipment may not be used where fish eggs are present.

- Fish must be able to swim past the operation. The operator, equipment, turbid discharge, and other mining activities under this permit must not prevent a migrating fish to advance up- or downstream.

- Dredging or mining from stream banks is not allowed under this permit.

- Undercutting or eroding stream banks and removal or disturbance of boulders, rooted vegetation, or embedded woody plants and other habitat structure from stream banks is prohibited.
  - *Boulders* include cobbles and larger rocks that protect and prevent erosion of the banks from spring run runoff and storm event stream flow.
  - *Woody plants* include living or dead trees or limbs, and shrubs.
  - *Vegetation* includes grasses, wildflowers, weeds, and other vegetation that stabilizes the stream banks or provides cover for fish or provides shade.
  - *Other natural features.*

- Moving boulders, logs, or other stream habitat structure within the stream channel is allowed. However, in no case may this habitat structure be removed entirely from the stream bank.

- Removal of habitat structure that extends into the stream channel from the stream bank is also prohibited.

- This permit does not authorize operations that may affect bridge footings, dams, and other structures in or near the stream.

- The suction dredge equipment must be properly maintained and petroleum products managed as follows:

a. Discharging oil, grease and fuel from suction dredge activity is prohibited. The permit holder must report spills according to requirements of Schedule D, Section D.2.

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b. Equipment used for suction dredging must not release petroleum products. Equipment surfaces must be free of oils and grease, and must be checked for fuel and oil leaks prior to start of operation on a daily basis.

c. A polypropylene pad or other appropriate spill protection and a funnel or spill-proof spout must be used when refueling to prevent possible contamination of surface waters or groundwater.

d. All fuel and oil must be stored in an impermeable container and must be located at least 25 feet from the wet perimeter of the stream. For dredge locations where a 25 foot buffer is not possible, addition precaution must be taken to ensure that petroleum products cannot spill or otherwise enter the stream.

e. In the event a spill occurs, suction dredge operators must contain, remove and mitigate such spills immediately. All waste oil or other clean up materials contaminated with petroleum products must be properly disposed off-site.

11. No wastewater discharges are allowed where the visible turbidity plume impacts the intake of a drinking water source. Drinking water source information tools to identify downstream intake locations are provided by the DEQ Drinking Water Protection Program and the Oregon Department of Water Resources.

12. Except as restricted in essential salmon habitat, suction dredging and obtaining placer ore for in-water nonmotorized mining is allowed into non-vegetated gravel bars up to 10 feet outside the wet perimeter of the stream.

13. Motorized wheeled or tracked equipment is prohibited below the ordinary high water mark except for the suction dredge and life support system (for example, breathing air supply).

14. Operators must ensure that mining equipment does not house invasive species. Equipment must be decontaminated prior to its placement in Oregon waters and when transferring from one water body to another. The Oregon Marine Board provides information including decontamination steps on aquatic invasive species. Discharge of decontamination solutions to waters of the state is prohibited.

15. Use of chemical agents such as mercury to improve mineral processing or metal extraction from ore or high-grade fines is not allowed under this permit.

CONDITIONS TO PROTECT OREGON SCENIC WATERWAYS, ESSENTIAL SALMON HABITAT, AND WILDERNESS AREAS

16. Suction dredging is prohibited in Oregon Scenic Waterways.

17. Areas designated as essential salmon habitat are restricted to small suction dredges not to exceed 16 horsepower with an inside diameter intake nozzle no greater than 4 inches.

18. Mining in essential salmon habitat is restricted to the wet perimeter of the stream.

CONDITIONS FOR SUCTION DREDGING ON WATER QUALITY LIMITED STREAMS

19. Suction dredging is prohibited on any stream segment that is listed as water quality limited for sediment, turbidity or toxics on the list published by DEQ pursuant to OAR 340-041-0046. This prohibition does not apply, however, to stream segments that were properly subject to mining under the 700-J permit between May, 3, 1999 and July 1, 2005**,** or to stream segments subject to a total daily maximum load (TMDL) that specifically authorizes mining under the 700 PM permit.

a. The 303(d) list of water quality limited streams is available on the DEQ website or at the following Department offices:

i. Northwest Region
2020 SW 4th Avenue, Suite 400
Portland, OR 97201
Tel. No. (503) 229-5263

ii. Western Region
165 East 7th Avenue, Suite 100
Eugene, OR 97401
Tel. No. 541-687-7326

iii. Eastern Region
700 SE Emigrant, #330
Pendleton, OR 97801
Tel. No. (541) 276-4063

iv. DEQ Headquarters
811 SW 6th Avenue 7th floor
Portland, OR 97204-1390
Tel No. (503) 229-6114
Tel No. (800) 452-4011 (x6114)

SCHEDULE D
NPDES GENERAL CONDITIONS

Where the above permit requirements are in conflict with these general conditions, the permit requirements supersede these general conditions.

SECTION A. STANDARD CONDITIONS

1. Duty to Comply with Permit

The permit holder must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for the Department to terminate, modify and reissue, revoke, or deny renewal of a permit.

2. Penalties for Water Pollution and Permit Condition Violations

The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions 33 USC §1365. DEQ enforcement is generally based on provisions of state statutes and EQC rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows the Department to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit. The federal Clean Water Act provides for civil penalties not to exceed $32,500 and administrative penalties not to exceed $11,000 per day for each violation of any condition or limitation of this permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to $25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense. The federal Clean Water Act provides for criminal penalties of not more than $50,000 per day of violation, or imprisonment of not more than 2 years, or both for second or subsequent negligent violations of this permit.

Under ORS 468.946, a person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state is subject to a Class B felony punishable by a fine not to exceed $200,000 and up to 10 years in prison. The federal Clean Water Act provides for criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment of not more than 3 years, or both for knowing violations of the permit. In the case of a second or subsequent conviction for knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

3. Duty to Mitigate

The permit holder must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permit holder must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permit holder wishes to continue an activity regulated by this permit after the expiration date of this permit, the permit holder must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Department may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge
d. The permit holder is identified as a Designated Management Agency or allocated a waste load under a Total Maximum Daily Load (TMDL)
e. New information or regulations
f. Modification of compliance schedules
g. Requirements of permit reopener conditions
h. Correction of technical mistakes made in determining permit conditions
i. Determination that the permitted activity endangers human health or the environment
j. Other causes as specified in 40 CFR 122.62, 122.64, and 124.5

The filing of a request by the permit holder for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permit holder must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 and 307(a) of the federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights and Other Legal Requirements

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The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

9. Permit Fees

The permit holder must pay the fees required by Oregon Administrative Rules.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permit holder must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permit holder to achieve compliance with the conditions of this permit.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit, and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points may not be changed without notification to and approval of the Department.

2. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136, or in the case of sludge use and disposal, under 40 CFR part 503, unless other test procedures have been specified in this permit.

3. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than $10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

4. Additional Monitoring by the Permit holder

If the permit holder monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated.

5. Retention of Records

The permit holder must retain records of all monitoring information, including all calibration and maintenance records for this permit for a period of at least 3 years from the date of the sampling or measurement. This period may be extended by request of the Department at any time.

6. Records Contents

Records of monitoring information must include:

a. The date, location, time, and methods of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

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7. Inspection and Entry

The permit holder must allow the Department or EPA upon the presentation of credentials, to:

a. Enter upon the permit holder's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

8. Confidentiality of Information

Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The permit holder may request that information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permit holder, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR 122.21 will not be classified as confidential. 40 CFR 122.7(b).

SECTION D. REPORTING REQUIREMENTS

1. Transfers

This permit may be transferred to a new permit holder provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit may be transferred to a third party without prior written approval from the Department. The Department may require modification or revocation and reissuance of the permit to change the name of the permit holder and incorporate such other requirements as may be necessary under 40 CFR Section 122.61. The permit holder must notify the Department when a transfer of property interest takes place.

2. Twenty-Four Hour Reporting

The permit holder must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours from the time the permit holder becomes aware of the circumstances, unless a shorter time is specified in the permit. During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permit holder becomes aware of the circumstances. The written submission must contain:

a. A description of noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected;
d. Steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

3. Duty to Provide Information

The permit holder must furnish to the Department within a reasonable time any information that the Department may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and

reissuing, or terminating this permit. The permit holder must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permit holder becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

4. Signatory Requirements

All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR Section 122.22.

5. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $100,000 per violation and up to 5 years in prison. Additionally, according to 40 CFR 122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a federal civil penalty not to exceed $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

6. Changes to Discharges of Toxic Pollutant

The permit holder must notify the Department as soon as it knows or has reason to believe the following:

a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:
   (1) One hundred micrograms per liter (100 µg/l);
   (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
   (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Section 122.21(g)(7); or
   (4) The level established by the Department in accordance with 40 CFR Section 122.44(f).

b. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
   (1) Five hundred micrograms per liter (500 µg/l);
   (2) One milligram per liter (1 mg/l) for antimony;
   (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Section 122.21(g)(7); or
   (4) The level established by the Department in accordance with 40 CFR Section 122.44(f).

Final Permit Fact Sheet [July 30, 2010]
NPDES 700PM General Permit

1

National Pollutant Discharge Elimination System (NPDES)
700PM- General Permit FACT SHEET

PROPOSED ACTION: 700PM NPDES general permit reissuance

PERMIT WRITERS: Beth Moore (503-229-6402) and Jim Billings (503-229-5073)

PERMIT CATEGORY: General Permit

SOURCES REQUIRED TO REGISTER UNDER THIS PERMIT:

3) small suction dredges not to exceed 30 horsepower with an inside diameter suction hose no greater than six inches used for recovering precious metals or minerals from stream bottom sediments in areas not designated as essential salmon habitat.
4) small suction dredges not to exceed 16 horsepower with an inside diameter intake nozzle no greater than 4 inches used for recovering precious metals or minerals from stream bottom sediments in areas designated as essential salmon habitat.

SOURCES COVERED BY THE PERMIT BUT NOT REQUIRED TO REGISTER

1) in-water nonmotorized mining equipment used for recovering precious metals or minerals from stream bottom sediments.

SOURCES NOT REQUIRED TO OBTAIN A WATER QUALITY PERMIT

1) hand panning

SOURCE LOCATION: Statewide

Date: July 30, 2010

INTRODUCTION

The Oregon Department of Environmental Quality (DEQ) is proposing to reissue the 700-PM NPDES General Permit. The permit expired on June 30, 2010. The expired permit is the subject of a pending court case and the proposed permit addresses issues raised in the case. The permit also is intended to align the activities covered with previous field work done by the department (Memorandum dated August 25, 2004 RE: Suction Dredge Visit) as well as statutes and rules administered by the Department of State Lands.

The final 700PM NPDES General Permit will applied to discharges from suction dredges not to exceed 30 horsepower with an inside diameter suction hose no greater than 6 inches and in-water nonmotorized mining equipment which are used to recover precious metals and minerals from stream bed sediments. Registration for the permit only applies to suction dredges. The permit contains requirements for the areas of operation for different size suction dredges to minimize the water quality impacts in areas that are considered environmentally sensitive. Small suction

dredges not to exceed 16 horsepower with an inside diameter intake nozzle no greater than 4 inches can operate in areas designated as essential salmon habitat. The larger size dredges will be required to operate in areas not designated as essential salmon habitat. Hand panning not required to obtain a water quality permit.

A suction dredge is a mechanical devise that floats on the stream surface and pumps stream water and stream bed material through a suction intake conduit to a sluice box from which gold or other minerals may be extracted. Gravity or siphon suction dredges operate with out a motor. The discharge from the suction dredge consists of stream water and bed material that is discharged back into the receiving water.

Suction dredges have a sluice box as an integral part of the equipment. The material from the sluice box is often further separated by panning the sluice extract. The proposed permit will also cover in-water nonmotorized prospecting and small scale mining equipment such as an in-stream hand sluice or mini rocker. Because the small suction dredge and the other in-water nonmotorized small scale mining equipment utilize the same gravity separation and metal/mineral extraction process and have the same discharge of pollutants, DEQ considers these in-water small scale mining activities together in the evaluation.

Generally placer mining occurs for a period ranging from 2 to 8 hours a day and is limited to the in-water work periods authorized by the Department of Fish and Wildlife. The activity moves a relatively small amount of material, and it is common that multiple mining activities occur along the same stream.

Operation of a suction dredge and the in-water nonmotorized sluice box collectively referred to as placer mining requires a permit under the federal Clean Water Act and is governed by regulations for the National Pollutant Discharge Elimination System (NPDES) program. DEQ has been delegated the authority by the U.S. Environmental Protection Agency (EPA) to issue NPDES permits in Oregon.

DEQ's authority to regulate mining arises from both the federal Clean Water Act (33 USC Section 1251 et. seq.) and Oregon's own water quality statutes. Oregon Revised Statutes (ORS) Chapter 468B. Oregon's authority to regulate discharges to waters of the state under the CWA and state water quality laws is not preempted by the Mining Law of 1872. Under ORS 468B.035 and 468B.050, DEQ is authorized to require a water quality permit with limitations for point sources (such as a suction dredges, sluice box) that discharge to waters of the state and that add pollutants that may cause water quality problems, e.g. turbidity. The water quality permit has best management practices and other conditions to protect, maintain and improve the quality of the waters of the state for public water supplies, for the propagation of wildlife, fish and aquatic life and for domestic, agricultural, industrial, municipal, recreational and other beneficial uses as authorized by ORS 468B.020 and consistent with the policies in ORS 468B.015.

Final Permit Fact Sheet [July 30, 2010]
NPDES 700PM General Permit

Permit History

The NPDES General Permit for suction dredging was first issued as the 700-J in 1992 with an expiration date in April 1997. In April 1997 the 700-J permit was renewed with an expiration date in March 31, 2002. The 700-J permit was modified in May 1999 to include antidegradation requirements per a court order following a permit challenge by the Northwest Environmental Defense Center (NEDC). In April 2002, the general permit expired and those already registered to the permit were administratively continued under the permit. DEQ provided new suction dredge operators with coverage under Mutual Agreement and Order (WQ/I-ER-02-114,WQ/I-WR-02-113 and WQ/I –NWR-02-112) until the permit was reissued. In 2004, DEQ acted in response to a notice of intent to sue unpermitted miners and began the permit renewal process for the 700-J permit. From June 2004 through June 2005, DEQ met with miners, miner organizations, Department of State Lands, and legislative officials, observed suction dredging operations and provided the opportunity for comment. The 700-J NPDES general permit for suction dredging became the 700PM NPDES general permit when it was renewed on July 5, 2005. The permit expiration date is June 30, 2010. The activities leading up to the reissuance of the 700PM permit are provided below.

The 700PM suction dredge general permit was challenged by NEDC and the Eastern Oregon Miners Association pursuant to ORS 183.400. The challenge NEDC raised was that the permit was not stringent enough and it was adopted without meeting certain procedural requirements. Eastern Oregon Miners Association argued that DEQ lacked the legal authority to issue the permit. The challenges were heard in the Oregon Court of Appeals. (NEDC v. EQC, A129732 (12/23/2009))

On December 23, 2009, the Oregon Court of Appeals issued a decision finding the permit invalid on the ground that its coverage was too broad. In summary, the court held:

- The permit purports to regulate both discharged pollutants that are suspended in the water column and waste rocks and sand that are redeposited on the bottom of the water body under the dredge;
- The permit was issued under delegated authority under Section 402 of the CWA; which addresses pollutants discharged into the water column ; while the redeposit of waste rocks and sand under the dredge are regulated by the United States Army Corp of Engineers (USACE) under Section 404 of the CWA; and
- DEQ did not assert that it was regulating under independent state authority.

The plaintiffs in the case have file petitions for an Oregon Supreme Court review of the decision of the Court of Appeals. The Oregon Supreme Court has not yet determined whether it will review the decision.

In preparation for the proposed permit, the DEQ revisited the scientific studies that have been developed over the years on suction dredging, including new information on turbidity as it relates to the current water quality standard. The current standard for turbidity under OAR 340-041-0036 allows no more than a ten percent cumulative increase in natural stream turbidities, as

measured relative to a control point immediately upstream of the turbidity causing activity. A mixing zone can be established to provide for a short term increase of the standard. The studies show that the adverse effects are short lived and a mixing zone is allowable. Outside the wilderness area, the turbidity standard is required to be met at no farther than 300 feet from the mining activity.

The turbidity standard also allows for limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities which cause the standard to be exceeded provided all practicable turbidity control techniques have been applied and one of the following has been granted (340-041-0036 (2)): a permit or certification authorized under terms of section 401 or 404 or OAR 141-085-0100 (Removal and Fill Permits, Department of State Lands), with limitations and conditions governing the activity is set forth in the permit or certificate.

The Army Corps of Engineers has not issued a National General Permit for small scale suction dredge mining under 404. DEQ cannot issue a 401 certification without a 404 permit; therefore OAR 340-041-0036 (2) is not applicable.

Legal Authority

This section addresses the commonly asked questions on DEQ's legal authority to regulate the activities covered under this permit. Placer mining activities covered under this permit are required to have a permit before discharging.

Clean Water Act

Placer mining activities covered under this permit are properly regulated under the Clean Water Act (CWA) section 402. Under CWA Section 402, an NPDES permit is required for the discharge of a pollutant from any point source to waters of the United States.

The discharge from suction dredges is considered a point source. The CWA defines a point source as "any discernible, confined, and discrete conveyance," including pipes and conduits. CWA section 502(14)[33 USC §1362(14)]. The definition of point source has been further defined in court cases interpreting these definitions, such as in, *League of Wilderness Defenders v. Forsgren*, 309F3d 1181, 1184-1185 (9th Cir 2002) and Rybachek v. EPA, 904 F2d 1276, 1285 note 8 (9th Cir 1990).

The permit authorizes the discharge of pollutants as defined under the CWA. The term "pollutant" is broadly defined under the CWA and includes dredge spoils, rock, sand and almost all other forms of waste. CWA Section 502(6). The federal Environmental Protection Agency (EPA) has determined that the re-introduction of waste materials from the stream bed into the water column through the process of suction dredging and sluicing constitutes the addition of a pollutant. There is no exception to the amount of the discharge under CWA 402.

Recent decisions by the US Supreme Court in the case of *Coeur Alaska v. Southeast Alaska Conservation Council*, 129 S.Ct. 2458 (2009) and the Oregon Court of Appeals in the case of

NEDC v. EQC A129732 (12/23/2009), indicate the US Army Corps of Engineers retains authority under CWA Section 404 to regulate the discharges from the dredges that are not suspended in the water column. This permit recognizes the authority of the USACE in this regard. At present, the Corps has not issued a general permit and it is unclear whether it will require individual permits. If the Corps does issue a permit, it is DEQ's intent that the registration under the general permit will serve as the state's water quality certification for purposes of CWA Section 401.

State Permitting Authority

The state's water quality statutes authorize the Environmental Quality Commission to adopt all rules and take any other actions necessary to implement the CWA (ORS 468B.035). This includes all actions required for EPA approval to operate the NPDES permit program established by CWA Section 402. DEQ received approval to operate the NPDES general permit program in February 1982.

Oregon law also authorizes DEQ regulation of suction dredges under independent provisions of state law, some of which predate the CWA. Oregon law requires DEQ permits for any discharge of wastes into waters of the state from any industrial or commercial activity or any disposal system (ORS 468B.050). This permit requirement implements legislative policies set out in ORS 468B.015 and 468B.020.

The CWA expressly recognizes that states have independent authority to regulate to protect water quality. CWA Sections 101(b) and 404(t).

This permit regulates pollutants such as turbidity and protects, maintains, and improves beneficial uses through best management practices. The best management practices are protective of water quality standards. Water quality standards include beneficial uses of the water, anti-degradation, which protects water quality limited water and numerical and narrative criteria to protect the uses. Turbidity is the primary pollutant of concern in the discharge of effluent from suction dredge operations. Literature on dredging recognizes that the gravel and course sand will remain as "loose tailings" and the finer sediment will be carried further downstream in suspension. (Effects of Suction Dredging on Streams: a Review and an Evaluation Strategy, Bret C Harvey and Thomas E. Lisle, Fisheries Habitat Vol 23, No. 8) Suction dredge operations create suspended particles which can be measured as turbidity. Turbidity is a measure of light transmission. High levels of turbidity can adversely impact water quality and can have indirect effects on fish and other aquatic life. This permit has effluent limits for turbidity and also includes narrative criteria.

Mining Law of 1872
Placer mining activities must comply with state and federal environmental law and regulations including the Clean Water Act even when mining is conducted under the Mining Act of 1872 as amended. The U.S. Supreme Court has previously held that the Mining Act of 1872 "expressed no legislative intent on the…subject of environmental regulation." *California Coastal comm'n,*

supra at 581 (1987). The Court also held that the subsequent amendments to federal mining law known as the Multiple Use Mining Act (30 USC § 601 *et. seq.*) and federal agency implementing regulations did not pre-empt state or federal environmental regulation. Id. at 582.

The Oregon Court of Appeals has expressly rejected the notion that the federal mining laws create any right to use waters of the state for the purpose of waste disposal. *Kinross Copper Corp. v. State of Oregon,* 163 Or App 357 (1999), *cert den,* 531 US 960 (2000).There is nothing in text, context or legislative history of the more recent CWA that suggests a general exemption from permitting requirements for mining on federal lands. CWA Sections 313 and 402. Subsequent amendments to federal mining, environmental and land management statutes all provide strong evidence against any inference of pre-emption. *See, e.g.*, 30 USC § 21(a); 30 USC §§ 601 *et seq.*; 42 USC §§ 4321 to 4370d.

Land Use Issues
When the 700PM permit was reissued in 2005, DEQ and the EQC determined that registration under the 700PM permit is not a program affecting land use and that determination is carried forward in this proposed permit.

Other Federal and State Laws
Please be aware the there are other applicable federal and state laws that apply. U.S. Army Corps of Engineers under Section 404 of the Federal Clean Water Act and Oregon Department of State Lands (DSL) under Oregon Revised Statute (ORS) 196.795 regulate the discharge of dredged material from suction dredges by removal-fill permitting.

A Removal Fill permit is required by DSL for any placer mining operation that alters, removes or fills more than fifty (50) cubic yards of material per year in any waterway and in some cases a may be required for operations involving less than fifty cubic yard per year. A permit from DSL does not eliminated the need for a DEQ permit.

Out-of-stream mining and non-chemical ore processing with no wastewater discharge to surface waters requires a DEQ 600 WPCF General permit. Off-stream mining an ore processing with a wastewater discharge to waters of the state requires an individual NPDES permit.

IV. COVER PAGE

The cover page describes the scope of permitted activities and type of operation covered by this permit. The proposed NPDES General Permit covers the following types of small scale mining. operations:

- small suction dredges not to exceed 30 horsepower with an inside diameter suction hose no greater than six inches used for recovering precious metals or minerals from stream bottom sediments in areas not designated as essential salmon habitat.

- small suction dredges not to exceed 16 horsepower with an inside diameter intake nozzle no greater than 4 inches used for recovering precious metals or minerals from stream bottom sediments in areas designated as essential habitat.

- in-water nonmotorized mining equipment used for recovering precious metals or minerals from stream bottom sediments.

Registration will be required to for the suction dredges. Registration includes submitting an application and paying an annual permit fee or a fee for the term of the permit.

A person requiring registration under the general permit can obtain that registration on an annual basis or the five-year term of the permit, which expires in December 2014. The cover page of the permit indicates whether the permit has been assigned on an annual basis or the full term of the permit, which is based on the fee payment.

The 700PM permit registration fees are provided for under ORS 468B.052 and are as follows:
- $25 annual fee for each year the person registers under the general permit.
- $100 for a five-year registration under the permit.

In-water nonmotorized equipment will be covered under the permit and the operator will be required to follow all the applicable conditions, including having a copy of the permit, but the operator will not have to register for permit coverage or pay a fee.

Hand panning is not covered by the permit, and DEQ does not believe that an NPDES permit is required for panning.

An individual permit is required to operate a suction dredge having a hose greater than 6 inches in diameter. A low cost ($300) individual NPDES permit is available for suction dredges having a hose no greater than 8 inches in diameter.
The cover page presents the format of the permit. The Schedules contain the requirements, limitations, and conditions of the 700PM General Permit. Definitions and a summary of permit application requirements to register under the permit follow the cover page.

II. SCHEDULE A - WASTE DISCHARGE LIMITATIONS

The Clean Water Act directs EPA to adopt effluent limit guidelines to implement technology-based requirements for various industrial categories. (CWA Section 304(b)). NPDES permits are required to have, at a minimum, all effluent limits needed to meet the technology based requirements of the CWA sections 301,304, 306 and 402.

EPA has specific effluent limit guidelines (ELGs) as technology-based requirements for certain placer mining activities, but these ELGs do not apply to dredges processing less than 5,000 cubic

yards per year. (40 CFR § 440.140 to 440.148) For point sources not covered by an ELG, permit writers develop technology-based effluent limits using best professional judgment.

Permits must contain technology based effluent limits and additional limits needed to ensure the permitted activity does not cause or contribute to a violation of water quality standards(CWA Sections 301, 303 and 402). This proposed permit uses the technology-based effluent limits based on the best management practices used in the previous permit and commonly used in other state permits including the proposed EPA Idaho general permit for suction dredging and EPA's accompanying biological evaluation. The use of other state's permit provide a confirmation of what is reasonably expected in best management practices. The Idaho biological opinion evaluation is for suction dredging and non-powered sluice equipment. The California Department of Fish and Game Suction Dredge Permitting Program Literature Review (2009) referenced some of the articles that DEQ used to develop the previous 700-J and 700PM permits. Additional studies were included in this final fact sheet in response to public comment that newer studies were needed.

The final permit includes larger suction dredges with not to exceed 30 horsepower with an inside diameter suction hose no greater than six inches and designates the area outside of essential salmon habitat for operation. Suction dredges that do not exceed 16 horsepower with an inside diameter intake nozzle no greater than 4 inches are designated for areas within essential salmon habitat. Restricting the areas of operation for different size suction dredges will minimize the water quality impacts in areas that are considered environmentally sensitive. DEQ is restricting the size of the dredge inside of essential salmon habitat because DEQ's 2004 field study on the 4 inch dredge showed that it is more likely to meet the water quality effluent limit for turbidity. This also aligns with DSL's requirement.

The final permit also retains the nonmotorized small scale mining equipment. Prior to the reissuance of this permit DEQ was contacted by several miners who use this type of equipment because they were concerned that the only permit option available was an individual NPDES permit. These are point sources that require an NPDES permit. The Department has determined that it is appropriate for the in-water sluicing equipment and other in-water nonmotorized small scale mining equipment that is commonly used in Oregon to be included in this general permit. Operators of in-water nonmotorized small scale mining equipment will be required to obtain a

copy of the permit and follow the applicable requirements; however registration under the permit is not required. Under 40 CFR 122.28(b)(2)(v) and OAR 340-045-0033(3)(a), DEQ can determine that the submittal of an application is not necessary after evaluating the type of discharge, the volume, availability of other means to identify the dischargers and estimated number of discharges to be covered under the permit. While number of these types of operations is not exactly known, DEQ estimates that there are 1000 in operation. The type of material discharged is the same. DEQ focus is on the suction dredges. In considering whether or not to include in-water nonmotorized equipment in the registration process, DEQ has determined that in-water non motorized means of mining move less material over time then the smaller suction dredges and that there ways to identify hand sluice operators through reported information

required by state law ,such as, DSL regulations. DEQ estimates that there are 1000 of this type of equipment.

To protect water quality and the beneficial uses of fish habitat and aquatic life, the proposed permit requires the same permit limitations in Schedule A and C for all equipment. Monitoring requirement are only for suction dredges. Condition 5 in Schedule A and Condition 2 in Schedule B of the previous permit (2005), which excluded requirements for suction dredges with hoses less than 4 inches, were removed.

In 2005, DEQ made a decision that field visits conducted in the summer 2004 indicated that smaller suction dredges have no reasonable potential to violate state turbidity criteria. However, upon review of those studies in support of this reissuance, DEQ does not reach the same conclusion. Turbidity measurements taken above and below the suction dredges observed in the field studies indicate levels greater than 10% above background. Further, the EQC staff report indicates that “DEQ may consider including turbidity exceedances for the next permit renewal, once the new turbidity standard is in place.”

There is no duration assigned to this standard, but DEQ can provide a mixing zone where between the end of the dredge and the 300 feet downstream, the water quality standards can be exceeded, as long as acutely toxic conditions are prevented and the mixing zone does not impair the beneficial uses of the receiving water.

The following table is an example of turbidity values that may occur for a short distance behind placer mining activity and is allowed within the 300 feet mixing zone for the duration of the activity. Table 1 below is taken from a document made in preparation for streams that did not water quality limits for sediment (Rowe, M.D., Essig, and B. Jessup. Guide to Selection of Sediment Targets for Use in Idaho TMDLs,2003) it summarizes the effects of turbidity.

Table 1. Summary of effects on fish, periphyton, and invertebrates noted for turbidity ranges. Units of Nephelometric (NTU) and Jackson (JTU) turbidity units are roughly equivalent (U. S. EPA 1983a).

Effect	Organism	Turbidity range	Reference
Increased blood sugar levels	Juvenile coho	Linear correlation	Sevizi and Martens 1992
Increased coughing	Juvenile coho	3-30 NTU for 24 hours	Sevizi and Martens 1992
Altered behavior	Juvenile coho	10-60 NTU	Berg 1982; Berg and Northcote 1985
	Largemouth bass and green sunfish	14-16 JTU	Heimstra et al. 1969
Emigration/avoidance	Steelhead and coho	11-51 NTU	Sigler et al. 1984
	Juvenile coho and steelhead	22-265 NTU	Sigler 1980
	Juvenile coho	>37 NTU	Sevizi and Martens

Effect	Organism	Turbidity range	Reference
			1992
Reduced feeding rate	Juvenile coho	10-60 NTU	Berg 1982; Berg and Northcote 1985
	Brown trout	7.5 NTU	Bachman 1984
	Lahontan cutthroat trout and Lahontan redside shiner	3.5-25 NTU	Vinyard and Yuan 1996
Reduced reaction distance	Lake trout, rainbow trout, cutthroat trout	3.2 – 7.4 NTU	Vogel and Beauchamp 2001
	Brook trout	0 – 43 NTU	Sweka and Hartman1999
Reduced growth	Juvenile coho and steelhead	22-113 NTU	Sigler 1980
	Juvenile coho and steelhead	as low as 25 NTU	Sigler et al. 1984
Reduced survival	Juvenile coho	15 – 27 JTU	Smith and Sykora 1976
Reduced primary production	Algae/periphyton	3 – 25 NTU	Lloyd et al. 1987
Reduced density	Benthic invertebrates	8.4 – 161 NTU	Quinn et al. 1992
Reduced feeding rate, food assimilation, and reproductive potential	*Daphnia pulex*	10 NTU	McCabe and O'Brien 1983

Based on DEQ's review of the studies (cited below),and by including a condition that requires corrective action be taken if the 300 feet distance is exceeded, DEQ believes that 300 feet is the distance at which there is no reasonable potential to violate the water quality standard for

turbidity. The 300 feet distance is a mixing zone that takes into consideration that this permit is for all streams in the state. The mixing zone of 300 feet was determined to meet OAR 340-041-0053 where the mixing zone is required to be as small as feasible, minimize the adverse affects on the indigenous biological community and allow the passage of fish and other aquatic organisms, not threaten public health and minimize the adverse effect on other designated beneficial uses outside the mixing zone.

Studies have reported, as in Baley's Final Report on "Response of fish to cumulative effects of suction dredge and hydraulic mining in the Illinois Subbasin, Siskiyou National Forest, Oregon" (2003) that local disturbances would need to have a strong cumulative intensity of many operations to have a measureable effect." No overlapping of the turbidity plume is allowed, which minimizes the cumulative effects of the operations.

Effluent Limits

The primary pollutant of concern in the discharge of effluent from mining is suspended particles, such as clay, silt in suspension which can be measured as turbidity. The water quality criterion

for turbidity is found in OAR 340-041-0036 where no more than 10% cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. Under OAR 340-013-0020(1)(a)(A), no person engaged in an activity other than emergency or recreation within a wilderness area established prior to 1972 shall cause a measurable increase in turbidity. The importance of regulating turbidity can be summed up in this statement: While effects of light penetration are usually associated solely with primary production, turbidity is also associated with elevated stress in fish, predatory efficiency, inducement of invertebrate drift, and suffocation of incubating salmonid embryos(Rowe 2003).

OAR 340-041-0036 Turbidity

The permit limits the discharge of visible turbidity at one set distance of 300 feet downstream from the suction dredging and in-water nonmotorized equipment discharge point except for those that operate within a wilderness area established prior to 1972. The vast majority of sediment discharge will fall out of the water column within distances much less than 300 feet, lingering suspended particles as turbidity is being measured after that initial fallout to determine compliance with the standard.

In retaining the 300 feet distance for turbidity, the reasonable potential analysis for the 300 foot distance that was provided in the March 15, 1999 Memo Suction Dredge Mining Permit—Addendum to Fact Sheet dated July 25, 1996 was considered. This information from the reasonable potential analysis is provided below.

> Turbidity/Sediments: Since suction dredging activities discharge sand, gravel and water from a sluice box, the activity can increase turbidity in the stream. Studies conducted in

Canyon Creek, California by the California Cooperative Fishery Research Unit, U. S. Fish & Wildlife Service, and Humboldt State University (1986) [1] were reviewed to determine effects of suction dredging mining on turbidity. These studies measured turbidity above and below the dredging site. The data from the above study and other studies[2, 3] show that these activities have a localized impact on the stream. These studies also note that turbidity levels return to background levels 50 to 80 meters downstream of the dredge site. The studies note that the turbidity is elevated during the periods when suction dredging occurs, typically about 2-4 hours per day.

1. "Impacts of Suction Dredge Mining on Anadromous Fish, Invertebrates, and Habitat in Canyon Creek, California", California Cooperative Fishery Research Unit, U.S. Fish & Wildlife Service, and Humboldt State University, 1986.
2. "Final Environmental Impact Report-Adoption of Regulations for Suction Dredge Mining State of California-Department of Fish and Game, April 1994.
3. Harvey, Bret C.; McCleneghan, Kim; Linn, Jack D.; Langley, Cheryl L., "Some physical and Biological Effects of Suction Dredge Mining, "June 1982.

In the Canyon Creek (1986) report, the background turbidities were less than 1 NTU with one or two readings of 3NTU. In the field data for the 4 inch aperture dredge the background turbidity reading was 0.88 NTU, the turbidity 13 feet from the dredge was 5.6 NTU and at the end of the

measured distance of 164 feet the turbidity was 2.85 NTU. Since at the distance of 164 feet the turbidity was reduced by half, it is assumed that the turbidity level would reach background levels or 10 % above background (1.0 NTU) at a distance of 300 feet from the dredge. Certainly, the DEQ's requirement for no visible turbidity would be met at the 164 feet distance and the 300 feet distance for the dredges studied.

The Final Environmental Impact Report (1994) states that for dredges with an intake size less than or equal to 6 inches, the area most impacted was 30 meter (100 feet) downstream and that the impact zone could be larger or smaller depending upon the size of the dredge and the stream bottom characteristics.

For this permit reissuance, DEQ also considered the equipment size regulated in other permits in order to determine what was more likely achievable. Utah's permit covers suction dredges with an nozzle of 4 inches or less with a 12 horsepower engine and hand held sluices with no throat more than 48 inches. The turbidity limit under this permit does not allow an increase in turbidity beyond 40 feet.

A 100 feet mixing zone was proposed in the 700-J permit that was being renewed in 1997, during the public comment period for that permit, the Siskiyou National Forest Service offered comments that it was highly unlikely that operators of recreational dredges with 4 inches or less would be able to comply with such a restrictive turbidity standard. The 300 foot mixing zone was selected for the final permit after consideration of the transient and noncontinuous nature of the turbid discharge combined with other restrictions related to spawning areas.

The permit authorized by EPA in Alaska is for placer mining by suction dredges with intake nozzles less than or equal to 10 inches and greater than 6 inches. Alaska's permit for these larger suction dredges allows a 500 feet mixing zone to meet turbidity limits of 5NTU above background.

The turbidity standard is protective of primary production (food web dynamics) in a water body. As noted in (Lloyd, Koenings, LaPerriere, North American Journal of Fisheries Management Vol 7:18-33, 1987) Turbidity of 5 NTU's can decrease the primary productivity of shallow clear water streams by about 3-13%. An increase of 25 NTU's may decrease primary production by 13-50% in shallow streams. The 300 foot mixing zone is protective of water quality even though the standard of no greater than 10% above background will be exceeded, because along with the requirement for no overlap in the turbidity plumes, more light will be available to reach the stream bottom.

More recently EPA's biological evaluation for the proposed EPA Idaho permit has cited similar studies that support the 300 feet mixing zone measured as visible turbidity while recognizing that finer sediment will be carried further down stream in suspension.

- Suction dredging generally causes turbidities of between 15 and 50 Nephelometric Turbidity Units (NTU) immediately downstream of the operation, with background levels

returning between 164 and 525 feet downstream and in some cases as short as 36 feet (Harvey 1986; Somer and Hassler 1992; Thomas 1985, Griffith and Andrews 1981, Stern 1988, Prussian et al. 1999).

- Harvey et al. (1982) and Harvey (1986) measured settleable solids and turbidity in three California Rivers from dredging activities. The settleable solids and turbidity levels reduced to background levels within 100 feet downstream. The study also noted that substrate type was very influential in determining which particles were suspended. The disturbance of clay deposits increased turbidity whereas disturbance of sand and gravel did not increase turbidity. Harvey (1986) found turbidity peaked at 50 NTU 16 feet downstream from a dredging operation and returned to background levels within 264 feet downstream. These studies demonstrate that effects of suction dredging on turbidity and suspended sediment concentrations are limited to the area immediately downstream of the operation for the duration of the dredging activity.

- Dredging in streams with higher proportions of fine materials will generate a more extensive turbidity plume (Harvey et al. 1982, Harvey 1986). Studies have shown that suction dredging can elevate suspended sediment concentrations up to 300-340 mg/L immediately downstream of the dredge with levels decreasing to background within 524 feet (Stern 1988, Thomas 1985).

In the development of the 2005 700PM permit DEQ conducted site visits in 2004 to observe suction dredging at a number of locations and sampled for turbidity on Althouse Creek in the Illinois River Basin and on the Applegate River. The dredging was conducted with a 4 inch suction dredge with a 4 hp engine. The distances for the turbidity were measured by walking out the distance, which is similar to what would occur in the field.

The data from the Althouse Creek is representative of a suction dredge operation in a stream bed with higher silt and clay, that when disturbed, create persistent visible turbidity at distances beyond 300 feet. For the 4 inch suction dredge operating in Althouse Creek, which is a relatively highly suspended sediment stream, the turbidimeter measurement showed that turbidity decreased from approximately 30 NTUs to approximately 6.5. NTUs at 100 feet downstream from the working dredge. The turbidity level measured at approximately 300 feet downstream was approximately 5.5 NTUs, which was more than the standard of 10% above the background of 0.6 NTU. By comparison the Applegate River was considered a typical river and DEQ data shows that the river returned to 10% above background at less than 300 feet downstream. Turbidity readings were not taken at the 300 feet distance downstream. Measurements taken above the dredge were 1.7 NTU. Measurements taken about 100 feet below the dredge were1.96 NTU.

Under the proposed permit, dredging must be done such that turbidity is minimized and localized to the general area of the dredging activity. If turbidity is visible 300 feet downstream of suction dredging, then turbidity exceeds the allowable in-stream water quality standard and the permit calls for immediate implementation of preventative measures.

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OAR 340-013-0020 Environmental Standards Wilderness Areas

Pursuant to OAR 340-013-0020(1)(A) no measurable turbidity is allowed in wilderness areas established prior to 1972. The term 'no measurable increase' is not defined. For the purpose of implementing this standard "no measurable increase" will be defined as no visual turbidity. Visible turbidity is defined in the permit as turbidity that is distinctly visible when compared to background turbidity. In an article "Laboratory Experiments to Investigate Human Sensitivity to Changes in Water Clarity by Smith and Perrone, Journal of Environmental Management, 48 (1996), there are multiple references published in the same journal on turbidity in the management of natural waters for recreation. The basis of water clarity is on the human perception is visible turbidity which was measured and quantified to determine what a noticeable difference would be to a human observer. Wilderness areas are set aside for its pristine nature and minimal impact recreational enjoyment. So the term 'no measurable increase" should be in keeping with that concept.

Compliance with the effluent limits for turbidly limits in Schedule A is required at all times. Preventative measures are required if suction dredging is creating a visible plume beyond 300 feet. Preventative measures can include the options of moving to a location where the dredging

of concentrated silt an clay can be avoided, moving to increase the distance between dredging operations, using reasonable care to avoid dredging silt and clay materials, or reducing the volume of effluent discharge by limiting operation or speed of the suction dredge.

The effluent limits and the best management practices established in this permit are protective of beneficial uses. The discussion of the best management practices are provided under Schedule C.

VII. SCHEDULE B - MONITORING REQUIREMENTS

The proposed permit requires visual monitoring once per day to determine compliance with the proposed turbidity criteria. The visual monitoring is required during daylight hours to determine compliance with the turbidity limits. The frequency of monitoring, information collected with the monitoring and recordkeeping required for suction dredges is explained in this section.

Monitoring and recordkeeping are not required for the non-motorized in-stream equipment and devices.

Other monitoring and record retention requirements are contained in the General Conditions, Schedule D, Section C, Monitoring and Records; however provisions in the permit supersede those in the General Conditions.

VIII. SCHEDULE C - SPECIAL

CONDITIONS Best Management Practices

Oregon's water quality standards are based on the protection of aquatic organisms and public health, beneficial uses and anti-degradation of water quality. The best management practices and

effluent limits are intended to protect the beneficial uses in the receiving waters of the state. These beneficial uses are:

Public Domestic Water Supply	Salmonid Fish Rearing	Boating
Industrial Water Supply	Salmonid Fish Spawning	Water Contact Recreation
Irrigation	Resident Fish and Aquatic life	Aesthetic Quality
Livestock Water	Wildlife and Hunting	Hydro Power
Anadromous Fish Passage	Fishing	Commercial Navigation and Transportation

Placer mining activities have been studied for their effects of turbidity, the movement of bed material that can contribute to erosion and create deposition, as well as, more recently toxic pollutants. In the Institute for Natural Resources Policy Paper 2003-01, prepared by Oregon State University, entitled "Recreational Placer Mining in the Oregon Scenic Waterway System." It states that miners and their representative organizations make a strong claim, backed by a

number of studies done by government and academic institutions, that recreational placer mining does not have a harmful impact on the natural environment if certain practices are followed.

This permit contains limitations to minimize the impacts of placer mining on the beneficial uses through best management practices.

Erosion: Schedule C, Condition Nos. 5 (no mining of stream banks), 6 (undercutting), 7&8 (moving habitat), 9 (bridge footings, dams), 12(10 feet into wet perimeter), 13(motorized equipment)

Studies have shown that placer mining can have a negative impact on habitat structure that benefits fish and benthic communities. Coarse woody debris and large boulders are beneficial to the stream.

Coarse woody debris and large boulders can be beneficial by adding stability, providing concealment for fish, and provide conditions in streams that influence species composition and the productivity of benthic vertebrates (Effects of Suction Dredging on Streams: A Review and an Evaluation Strategy Fisheries Habitat Vol. 23, No. 8, Bret C. Harvey and Thomas E. Lisle, August 1998).

In the biological evaluation for the proposed Idaho suction dredging permit, it states that "Removal of coarse woody debris or boulders from a river can have substantial impacts on the stream environment, including redistribution of sediment and changes in stream topography and changes in size and location of pools to name a few. These changes in flow can alter the production of benthic invertebrates and the survival and development of developing fish embryos (Bilski 2008, Merz et al. 2006)." California Department of Fish and Games 2009 literature review states that "suction dredging along the channel margins has the potential to undercut the streambank, resulting in bank erosion and potential bank destabilization and collapse."

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In a Fisheries Habitat article it states that "Erosion of stream banks are likely to be greater where stream banks and riparian vegetation are directly disturbed by suction dredging and related activities. Excavation of stream banks anywhere is likely to substantially increase suspended sediment because banks commonly contain abundant finer sediment. The article goes on to explain that unless significant bank erosion occurs, increased sediment transport is limited by what is in the channel and the overall effects downstream are probably minor. (Effects of Suction Dredging on Streams: A Review and an Evaluation Strategy Fisheries Habitat Vol. 23, No. 8, Bret C. Harvey and Thomas E. Lisle, August 1998)

Stream bank erosion can accelerate production of stream fines. Finer sediments cause sediment and turbidity problems in the receiving stream. Dredging activities are kept along the wet perimeter to prevent erosion because "banks commonly contain abundant finer sediments." (1998 Fisheries Habitat Vol. 23, No.8, 'Effect of Suction Dredging on Streams: A Review and an Evaluation Strategy') CA Sept 2009 literature review. In a 1987 article, by Lloyd, Koenings,

LaPerrier in North American Journal of Fisheries Management vol. 7 entitled Effects of Turbidity in Fresh Waters of Alaska, it states that although it was previously thought the release of settleable solids and increased fines in bottom substrates from habitat alteration reduced invertebrate densities, turbidity had the strongest statistical descriptor of reduced density and biomass of macroinvertabrates.

The best management practices minimizes the impact of erosion and protects the habitat for beneficial uses by keeping dredging excavating activities in the stream and along the wet perimeter. Boulders and habitat structure may be moved around in the stream but not removed (Schedule C, Condition No. 7 and 8). This permit limits the areas where dredging can occur; dredging of stream banks is not allowed, (Schedule C, Condition No. 5), only into non vegetated gravel bars up to 10 feet outside the wet perimeter in non essential salmon habitat (Schedule C, Condition No 12). Undercutting or eroding stream banks and removal or disturbance of boulders, rooted vegetation or embedded woody plants from the stream bank is prohibited,(Schedule C, Condition No. 6). Erosion increases the sediment load to a stream and increases turbidity due to the fines being disturbed. Stream bank erosion is minimized by prohibiting motorized wheeled or tracked equipment from being used in-water. (Schedule C, Condition no. 13). These BMPs will limit the potential impact of erosion and protect habitat. The EPA Idaho permit, Alaska permits and the Montana permit contain similar conditions to protect habitat. In Schedule C, Condition No. 9, the requirement will limit the potential impact of erosion as well as satisfy requirements for a 401 certification is one is necessary.

Excavation and Deposition: Schedule C, Condition No. 1 (no overlapping plumes), Schedule C, Condition No. 2&3 (in water work and the presence of fish eggs)
In the process of dredging, material is taken up and re-deposited in the stream. The re-deposited material can have effect on fish spawning and benthic habitat. OAR 340-041-0007(12) does not allow the formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits that are harmful to fish or other aquatic life, public health, recreation or industry.

Excessive suspended material and sedimentation threatens the survival of fish and other aquatic animals. The effects of turbidity and suspended solids include: respiratory and feeding impairment, social disorganization.

Excessive fine sedimentation in spawning grounds limits available oxygen and removal of metabolic toxins near eggs and physically renders spawning sites less suitable.(Umatilla Basin TMDL, ODEQ, May 9, 2001)

Excavation and deposition have been shown to create a disturbance in benthic invertebrate habitat, with some benthic invertebrates showing the ability of recovering more rapidly than others depending upon the amount of area disturbed. The excavation exposes the macroinvertebrates to damage, increased predation and redistribution. Redistribution occurs

from uptake and movement with the stream flow or changing the stream bottom from gravel to a finer sediment which causes a natural selection for that type of substrate. Keeping the distance between dredges by prohibiting the overlapping plumes reduces this impact. "Recolonization on tailings would probably be slower if dredging were more extensive because potential colonizers would be less abundant and more remote." (Bret C. Harvey and Thomas E. Lisle.) Effects of Suction Dredging on Streams: A Review and an Evaluation Strategy, Fisheries Habitat Vol. 23, No. 8, 1998

Schedule C, Condition No. 1 is the best management practice that minimizes the effects of excavation and deposition by preventing overlapping plumes and limiting the distance for visible turbidity to 300 feet. In the EPA permit fact sheet for suction dredges AKG-37-1000 in 2005, there is a discussion which supports the selection of 300 feet and its impact on the macroinvertebrate community.

- As with water clarity, the effect of suction dredging on macroinvertebrate abundance and diversity was confined spatially to a relatively small area downstream of the dredge. Both abundance and diversity were notably reduced for 33 feet downstream of Site 1 with similar occurrence at Site 2. By 262 feet, both appeared to be unaffected by the dredge plume.

It should be noted that the deposition from tailing piles can have an impact on fish that spawn in the fall, such as chinook salmon and coho salmon because these fish may choose tailings for their spawning habitat. The tailings are less stable and are subject to scour before incubation is complete. In a 1999 article in the North American Journal of Fisheries Management by Harvey, Bret C. and Lisle, Thomas E., "Scour of Chinook Salmon Redds on Suction Dredge Tailings", it states that if natural spawning sites were relatively abundant then tailings were not strongly selected for redds but if natural spawning substrate was in short supply, a large proportion of redds would locate in the tailings. The article further states that these manmade redds are subject to scour and that where there is a high potential for scour and a low number of spawners, there should be a regulation that requires that tailings be redistributed to restore the original bed topography. This type of impact is also mentioned in the Institute for Natural Resources Policy

Paper (2003-01). It should be noted that ORS 390.825(17) requires a recreational miner to level pits, piles, furrows or potholes outside the main channel of the waterway upon leaving the site.

The excavation and deposition that would disturb fish eggs and spawning grounds are protected by specifying in Schedule C, Condition No. 2 & 3 suction dredging need to observe the in-water work periods. The in-water work periods are based on the protection of fish and fish spawning developed by the Oregon Department of Fish & Wildlife and gives primary consideration to anadromous and other game fish, and threatened, endangered or sensitive species. The non motorized mining equipment may not be used where fish eggs are present.

Toxics: Schedule A Condition No. 1 (meet water quality criteria), Schedule C, Conditions Nos. 10 (oil), 11 (drinking water sources), No. 15(chemical agents) No. 19 (Water Quality Limited Streams), In 1999, DEQ prepared an evaluation of the pollutants of concern from suction dredging which included toxic pollutants. In the discussion DEQ noted that some streams contain sediments that have been contaminated with toxic pollutants. Suction dredging in streams that are water quality limited for toxics could disturb stream bottom sediments and lead to the release of toxic pollutants into the water column.

More recently water quality studies downstream of dredging activities has been conducted in Washington and Alaska for toxics such as arsenic, copper, silver zinc, lead, chromium, nickel, antimony, cadmium and selenium. The California Department of Fish and Game Suction Dredge Permitting Program Literature Review (2009) characterized these studies as follows:

> Johnson and Peterschmidt (2005) found elevated levels of arsenic, copper, zinc, and lead immediately downstream of suction dredging in the Similkameen River, WA, but levels
>
> quickly returned to background 30-60 m downstream. Another study showed elevated copper and zinc immediately downstream of suction dredging, but background levels were reached within 80 m (Prussian, et al. 1999).

In the process of mining, mercury is taken up in the sluice and removed from the stream. DEQ has a fact sheet that informs miners about the recovery of mercury and DEQ has worked with miners to collect mercury for disposal. DEQ noted that recreational mining can actually produce a benefit to water quality when miners remove mercury from rivers left behind by old commercial mining operations. (INR Policy Paper 2003-01, prepared by Oregon State University). DEQ has not examined the study on the physical alteration of mercury as it goes through the suction dredge and re-enters the stream. There is a report that suggests the mercury becomes more available and bioaccumulation through the food chain is a concern (2005 State Water Resources Control Board, Division of Water Quality). DEQ has standards on the amount of mercury that can be present in the water column that is protective of aquatic life and human health. The water quality standard for mercury is based on water and fish consumption.

Schedule A, Condition No. 1 requires that no pollutants or wastes be discharged and no activities be conducted that will violate water quality standards and in Schedule C, Condition 16 use of chemical agents such as mercury are prohibited. The acute (short term) water quality standards in

fresh water for aquatic protection are extremely low at 2.4 ug/L (OAR 340-041 Table 33A). Prohibiting the use of chemical agents will prevent the material from entering the water body and protect this water quality standard. In addition, the permit contains a prohibition against suction dredging activities in streams that are water quality limited for toxic pollutants(Schedule C, Condition No.19). The best management practices in the permit also require that the discharge

from the dredging activity no impact the intake of a drinking water source so that no more than background levels are entrained in the drinking water uptake.(Schedule C, Condition No.11)

In the Response to Comments for the Montana Suction Dredge General Permit MPDES Permit MTG370000, there is mention of one study of a 4-inch suction dredge operation conducted on the Clark Fork River on June 28, 1985 (Department memo written by Mike Pasichnyk to Greg Schmaus on July 1, 1985). The data shows slightly elevated toxic metal concentrations immediately downstream from the dredge, which return to background levels within 200 feet.

In a DEQ report entitled Turbidity Analysis for Oregon Public Water Systems: Water Quality in Coast Range Drinking Water Source Areas June 2010 it states that

- Suspended sediment is of concern for drinking water safety as it can reduce the effectiveness of disinfection treatments (LeChevallier *et al* 1981), harbor pathogens (e.g. Chang *et al* 1960, Tracy *et al* 1966, Sen & Jacobs 1969, Meschke & Sobsey 1998), contribute to formation of disinfection by-products (Nikolaou *et al* 1999, US EPA 2002a), and carry nutrients, heavy metals, pesticides, and other toxic chemicals (Lick 2008). Unpleasant tastes and odors frequently co-occur with excessive turbidity (US EPA 1998). Prevention or removal of fine sediment pollution from water reduces these risks to acceptable levels (US EPA 2001).

The report discusses that the basic treatment technology can handle 5 NTU but greater than that requires additional treatment. DEQ is going to provide available information on the location of domestic water supplies and private water supplies with the permit.

OAR 340-041-0007(13) states that objectionable discoloration, scum, oily sheens, or floating solids or coating of aquatic life with oil films may not be allowed. The permit establishes preventative measures to minimize the potential for contamination of surface water by petroleum products. Schedule C, Condition No. 10 is protective of this water quality standard.

Schedule C, Condition No. 14 protects fish habitat. Best management practices were also included for the control of invasive species. The control of invasive species is considered one of the six key issues of statewide concern in the Oregon Conservation Strategy. As of January 1, 2010 some boats will need an aquatic invasive species prevention permit from the Oregon Marine Board.

Invasive species are species not native to ecosystems to which they have been intentionally or accidentally introduced and whose introduction causes or is likely to cause economic or environmental harm. Many non-native species have been introduced to Oregon. While not all non-native species are invasive, some crowd out native plants and animals and become a serious

problem. They alter habitat composition, increase wildfire risk, reduce productivity, or otherwise disrupt natural habitat functions.

DEQ has included permit condition to provide a continuous zone of passage that meets water quality criteria for free-swimming and drifting organisms. The visible turbidity must not cover the entire wet perimeter as required in Schedule A, Condition No.1. In Schedule C, Condition No 1 the permit requires that there be no overlap in turbidity plumes where more than one piece of equipment is operating in the same waters. As cited in EPA's biological opinion for the EPA Idaho permit, "Thomas (1985) and Harvey (1986) concluded that in streams where dredges operate at low density, suspended sediment is not a significant concern because effects are highly localized and readily avoided by mobile organisms." There is also a requirement for safe fish passage in Schedule C, Condition No.4.

Schedule C contains other requirements for dredge operation and work practices that are consistent with revised statues and Oregon Administrative rules for Oregon Scenic Waterways and Essential Salmon Habitat,

Oregon Scenic Waterways and Essential Salmon Habitat
Suction Dredging is prohibited in Oregon Scenic Waterways. The policy statement and ORS 390.815 support that the Legislature created the Oregon state scenic waterways system, among other things, to preserve and protect water quality in designated rivers.

The permit contains requirements for the areas of operation for different size suction dredges to minimize the water quality impacts in areas that are considered environmentally sensitive. This condition is aligns with DSL regulations. Small suction dredges not to exceed 16 horsepower with an inside diameter intake nozzle no greater than 4 inches can operate in areas designated as essential salmon habitat. The larger size dredges will be required to operate in areas not designated as essential salmon habitat.

Permitting Process: Antidegradation
This permit is a permit reissuance for a permit that was active but a final decision may be made that makes the permit invalid by a court order and will be treated as a permit renewal for the purpose of the antidegradation evaluation.

There are not a significant number of new registrations under the permit. DEQ has as many as 2000 registration records under the permit and those that are active are shown below.

Year	Re-registration	New Registrations
2009	470	464
2010	773	432

This is a general permit for activities that are conducted statewide. The permit limits and best management practices were developed to be protective of water quality standards in waters of the state. The permit as written does not result in the lowering of water quality in high quality water, or water quality limited water. There is no outstanding resource water in the state.

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This permit retains the antidegradation requirements for Oregon water quality limited streams that was in the modification of the 1997 permit In 1999, A court order invalidated the permit on waterbodies that were water quality limited for temperature and required the DEQ to apply the antidegradation rule (OAR 340-041-0025(3)(a)(C). In response to the court order, DEQ evaluated pollutants of concern associated with suction dredging activities in the March 15, 1999 memo, addendum to the July 25, 1996 suction dredging mining permit.

The evaluation of turbidity/sediments, toxic pollutants, dissolved oxygen and temperature resulted in a permit condition that prohibited suction dredging in certain streams that are on the State 303(d) list as water quality limited for sediments, turbidity or toxics. In the evaluation, the DEQ concluded that there was no conclusive evidence that small scale dredging adversely affected stream temperature, if the activity included no check dams or other obstructions. This permit maintains this requirement as a best management practice in Schedule C, Condition 4 where the fish holder must not obstruct fish passage. DEQ has not found any new studies that relate in stream turbidities from suction dredging to an increase in temperature. The protection of the habitat structure in the best management will protect the riparian areas that provide shade.

Suction dredging is prohibited in Oregon streams that are water quality limited for sediments, turbidity, or toxics. This prohibition does not apply, however, to stream segments that were properly subject to mining under the 700-J permit between May, 3, 1999 and July 1, 2005**,** or to stream segments subject to a total daily maximum load (TMDL) that specifically authorizes mining under the 700 PM permit. DEQ will provide a list of water quality limited streams on the 303(d) list for those registering under the permit.

Suction dredging is prohibited in all water quality limited streams during periods when native migratory fish are rearing and spawning through fry emergence, as identified by ODFW. Nonmotorized mining equipment may not be used where fish eggs are present. Suction dredging is prohibited in Oregon Scenic Waterways. As well DEQ restricts suction dredging in the Clackamas River, McKenzie River, and North Santiam River as provided in OAR 340-041-0350.

Under the proposed permit the Department is including in-water nonmotorized mining equipment that is used for recovering precious metals or minerals from the stream bottom sediments, such as, the use of a hand sluice and a mini rocker. The in-water nonmotorized mining process includes excavation and extracting with gravity separation. The Department understands that this type of mining activity is done in Oregon and was not meant to be excluded from the general permit coverage of small scale mining operations. In the public comments for 1997 700-J permit, the DEQ stated that sluice boxes with the discharge to surface water were included under the permit.

This activity was part of the early mining technology and mining has been conducted since precious metals were discovered in Oregon. The Department considers this an existing use, there is information to support that discharge from these point sources existed prior to 1994 (OAR 340-041-0350(3)(b)). Under DEQ's internal management directive for anti-degradation, a

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historic discharge that is not expected to have a load greater than the historic discharge is not considered a new discharge.

The in-water non motorized mining processes are not expected to create pollutants that are different than those evaluated under suction dredging. The permit requirements are the same for all dredging activities under this permit with the exception of compliance with OAR 340-041- 0350. As written OAR 340-041-0350 prohibits suction dredging in certain areas of the Clackamas River, McKenzie River, and North Santiam River . The Department finds that keeping these same conditions in the permit for in-water nonmotorized mining equipment are acceptable for the protection of water quality limited waters.

VI. SCHEDULE D: NPDES GENERAL CONDITIONS – INDUSTRIAL FACILITIES

Schedule D includes conditions that describe operation & maintenance, monitoring & recordkeeping, and reporting requirements as they apply to suction dredge activity. The conditions in this section were taken from a more detailed November 25, 2009 list of NPDES conditions that were reviewed by EPA, and are included in all industrial NPDES Permits issued in Oregon. These conditions in this section are appropriate for this general permit. When requirements in Schedules A, B, and C contain requirements that are repeated in the general
conditions, the provisions in the permit supersede the general conditions.